INDIAN BUREAU OF MINES

MINERALS DEVELOPMEMT AND REGULATION DIVISION

I/8695/2023

Review and updation of Mining Plan REPORT

Jabalpur regional office

Mine file No : MP/KTN/LST-102 **Mine code : 38MPR47032**

(i) Name of the Inspecting Officer and ID No. : **G005) SANJAY M. GIRHE**

(ii) Designation : Regional Mining Geologist

(iii) Accompaning mine Official with Designation :

(iv) Date of Inspection : 26-SEP-22

(v) Prev.inspection date : 08-OCT-18

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **PADREHI**

(b) Registration NO. :

(c) Category : B Manual

(d) Type of Working : Opencast

(e) Postal address

State : MADHYA PRADESH
District : KATNI
Village : PADREHI
Taluka : KATNI
Post office : KHIRWA
Pin Code :
FAX No. : N. A.
E-mail : N. A.
Phone : N. A.

(f) Police Station :

(g) First opening date : 02-MAR-82

(h) Weekly day of rest : SUN

2. Address for correspondance : M/S TRIVENI LIME CO.
RAGHUNATH GANJ, KATNI (M.P.) 483501

3. (a) Lease Number : MPR0277
(b) Lease area : 4.77
(c) Period of lease : 50
(d) Date of Expiry : 01-MAR-32

4. Mineral worked : LIMESTONE Main

l/8695/2023

5. Name and Address of the

Lessee : TRIVENI LIME CO.
RAGHUNATH GANJ KATNI
MADHYA PRADESH
Phone:N. A.
FAX :N. A.

Owner : TRIVENI LIME CO.
RAGHUNATH GANJ, KATNI
MADHYA PRADESH
Phone: N. A.
FAX : N. A.

6. Date of approval of Mining Plan/Scheme of Mining :

Renewal under rule 22 MCR1960	13-FEB-04
MP modif under 17(3) MCR 2016	29-NOV-16
MP review under 17(1) MCR 2016	09-AUG-19

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	During the year 2019-total 04 core boreholes were proposed	Exploration carried out by three boreholes	Violation under Rule 11(1) of MCDR,2017 pointed out & issued on 04.11.2022
1b	Exploration over lease area for geological axis 1 or 2	During the year 2019-total 04 core boreholes were proposed	Exploration carried out by three boreholes	Violation under Rule 11(1) of MCDR,2017 pointed out & issued on 04.11.2022
1c	Exploration Agencies and Expenditure in lakh rupees during the year	During the year 2019-total 04 core boreholes were proposed	Exploration carried out by three boreholes	Violation under Rule 11(1) of MCDR,2017 pointed out & issued on 04.11.2022
1d	Balance area to be explored to bring Geological axis in 1 or 2	During the year 2019-total 04 core boreholes were proposed	G1 level: 2.86 Ha G2 level: 0.55 Ha Unexplored area-1.36Ha	Exploration carried out by three boreholes
1e	Balance reserve as on 01/04/20	Reserves in Tonnes Proved(111) - 347808MT Resources in Tonnes Feasibility(211): 150999 MT The Resources & Reserves position as per ROMP approved on dtd 09.08.2019	Reserves in Tonnes Proved(111) - 271927 MT Resources in Tonnes Feasibility(211): 150999MT The Resources & Reserves position as per Annual Return 2021-22	Re-estimation of resources & reserves not done & previous estimated Reserves & Resources carry forwarded
1f	General remarks of inspecting officers on geology, exploration etc	NA	NA	Geologically the limestone of this area belongs to Semari Group of Rohtas formation of lower vindhyan. The general strike of formation is NE-SW (N65deg E) & amount of dip from 8deg to 12 deg towards north-west

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	It was proposed to work in Pit-A towards northern part from 395 to 383mRL	Mine working was not carried out as per the proposals	No deviations observed
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Benches in Top soil - 3m Overburden Benches -Nil and Mineral Limestone - 2 Benches of height 6mts proposed	Benches heights maintained for OB benches as well as mineral limestone benches	Benches configuration found in order as proposed
2c	Stripping ratio or ore to OB ratio	Proposed as 1:0.65 Tonne/CuM	Achieved as 1:0.71 Tonne/CuM	During the year 2021-22 total 12238 CuM OB generated
2d	Quantity of topsoil generation in m3	12555CuM	Achieved as 10875 CuM	
2e	Quantity of overburden generation in m3	13804CuM	Achieved as 12238 CuM	Top soil generations achieved as per proposed target
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	NA	NA	There are two working pits and its dimensions are Pit No-1 (70m x 80m x 12m), Pit No-2(215m x 100m x 12m). Limestone mineralisation very well seen in all the working pits

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Excavation were proposed in Pi-A from 395mRL to 383mRL as marked in Plate-3C	Mine working were carried out as per proposals	
3b	Quantity of ROM mineral production proposed	80519 MT proposed in 2021-22	71390 MT (Achieved in 2021-22)	Production of limestone on slightly lower side during the year.

3c	Recovery of sailable/usable mineral from ROM production	Proposed as 70%	Achieved as about 70%	Rest 30% is inter-burden waste material
3d	Quantity of mineral reject generation	No Proposals	Nil	Nil
3e	Grade of mineral rejects generation and threshold value declared.	No Proposals	Nil	Nil
3f	Quantity of sub grade mineral generation.	No Proposals	Nil	Nil
3g	Grade of sub grade mineral generation	No Proposals	Nil	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Manual sizing & sorting proposed	Manual sizing & sorting carried out	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposals	Lessee is not having any plan for beneficiation study	Nil
3j	Provision of drilling and blasting in mineral benches	Deep drilling with 110mm dia drilling & blasting is proposed by Jack hammer/wagon drill	Deep drilling with 110mm dia drilling & blasting is proposed by Jack hammer/wagon drill	Nil

3k	Provision of mining machineries in mineral benches	Excavator,210 T, 1.2Cum capacity TATA Dumper model 2515, 10 T capacity Tractor mounted Air Compressor Jack Hammer/wagon drill with Drill rods Mahindra Tractor with Water Tank on trolley Water pump with Diesel engine	Excavator,210 T, 1.2Cum capacity TATA Dumper model 2515, 10 T capacity Tractor mounted Air Compressor Jack Hammer/wagon drill with Drill rods Mahindra Tractor with Water Tank on trolley Water pump with Diesel engine	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	OB bench height is 3m proposed Bench height of 6m proposed in mineral	At some extent bench height is not regular due to quality constraints	Proposed bench height is suitable as per the deposit
3m	Total area covered under excavation/pits	4.12 Ha area was proposed in approved ROMP period i.e. 2019-2020-21 2022-23 dtd 09.08.2019	2.45Ha as on 01.04.2022, as per annual return for the year 2021-22	
3n	Ore to OB ratio for the pit/mine during the year.	Proposed as 1:0.65 Tonne/CuM	Achieved as 1:0.71 Tonne/CuM	During the year 2021-22 total 12238 CuM OB generated
3o	Total area put in use under different heads at the end of year	As per the previous approved MMP Pits-4.12Ha Top soil storage-0.44Ha Infrastructure -0.0089Ha Road-0.10Ha	As per the Annual Return 2021-22 As per the previous approved MMP Pits-2.45Ha Reclaimed/Rehabilitated-0.619Ha Infrastructure-0.048Ha Road-0.10Ha	Deviation in excavated area due to less production

3p	Production of ROM mineral during the last five year period as applicable	2017-18-: 80703 MT 2018-19-: NA 2019-20-:81942MT 2020-21-:76954 MT 2021-22-: 80519MT	2017-18-: Nil 2018-19-: Nil 2019-20-:Nil 2020-21-:4491 MT 2021-22-: 71390MT	Production details as per annul returns from 2017-18 to 2021-22
3q	General remarks of inspecting officers on method of mining etc.	NA	NA	Mechanised open cast working proposed by using Excavator /JCB & dumper combination with deep & shallow drilling & blasting using jack hammer/wagon drill

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Concurrent use of OB & top soil proposed for backfilling towards southern part	Backfilling carried out partly and remaining OB generated dumped at the earmarked locations	OB generated during the year dumped on earmarked locations
4b	Location of topsoil, OB and mineral reject dumps	Three OB dumps are located towards southern & north-western part of ML area	Three OB dumps are located towards southern & north-western part of ML area	Total 03 OB dumps located in mining lease area
4c	Number of dumps within lease area and outside of lease area	Three OB dumps are located towards southern & north-western part of ML area	Three OB dumps are located towards southern & north-western part of ML area	No OB dumps outside ML area
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	OB dumps located in between grid N2665300 to N266580 & E468310 to E468310410	OB dumps located in between grid N2665300 to N266580 & E468310 to E468310410	Three OB dumps are located towards southern & north-western part of ML area

4e	Number of active and alive dumps.	Three OB dumps are located towards southern & north-western part of ML area	Three OB dumps are located towards southern & north-western part of ML area	
4f	Number of dead dumps.	No dead OB dumps in ML area	No dead OB dumps in ML area	
4g	Number of dumps established.	No Proposals	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall proposed	Retaining wall made as proposed	
4i	Length of Retaining wall or garland drain all along dumps	NA	NA	Nil
4j	Number of settling ponds	No Proposals	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management	NA	NA	Three OB dumps are located towards southern & north-western part of ML area and concurrent use for reclamation by backfilling proposed at mined out area and 7.5m barrier zone

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Limestone exhausted pit area proposed for backfilling during the year 2021-22	Backfilling not carried out as per the proposals	Violation under Rule 11(1) of MCDR,2017 pointed out and issued on 04.11.2022
5b	Area under backfilling of mined out area	Proposed as 3075 SqM	Acheived as 2230 SqM but not backfilled at proposed locations	Violation under Rule 11(1) of MCDR,2017 pointed out and issued on 04.11.2022

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Proposed for plantation purpose over backfilled area	Concurrent use of top soil for plantation purpose carried out over backfilled area	
5d	Total area fully reclaimed and rehabilitated	Total area reclaimed & rehabilitated -0.69Ha	Total area reclaimed & rehabilitated -0.69Ha	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	NA	NA	Overburden generated from mine proposed for reclamation by backfilling over mined out limestone exhausted area.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	To be submitted before 1st July of every year	Not submitted within time limit as per the provisions of Rule 26 of MCDR,2017	Violation under Rule 26(2) of MCDR,2017 pointed out & issued on 04.11.2022
6b	Area available for rehabilitation (ha) .	No Proposals	Nil	Nil
6c	afforestation done (ha).	No Proposals	Nil	Nil
6d	No. of saplings planted during the year	No Proposals	Nil	Nil
6e	Cumulative no .of plants	No Proposals	Nil	Nil
6f	Any other method of rehabilitation	No Proposals	Nil	
6g	Cost incurred on watch and care during the year	No Proposals	Nil	Nil

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Proposed over 3075 SqM	Achieved over 2230 SqM	But backfilling not carried out at proposed locations hence violation under Rule 11(1) of MCDR,2017 pointed out & issued on 04.11.2022
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Proposed over 3075 SqM	Achieved over 2230 SqM	But backfilling not carried out at proposed locations hence violation under Rule 11(1) of MCDR,2017 pointed out & issued on 04.11.2022
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	No Proposals	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposals	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposals	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No Proposals	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No Proposals	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No Proposals	Nil	Nil

6p	Compliance of environmental monitoring (core zone and buffer zone)	Periodical Air, Water, Noise monitoring Proposed	Yes, Compliances of environmental monitoring is being carried out.	Analysis reports were provided
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	NA	NA	Year wise reclamation & rehabilitation proposed by OB material backfilling. Periodic monitoring is being carried out by outsourced consultant. PMCP implementation was satisfactory.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	80519 MT proposed as total ROM production for despatch. Grade wise sorting proposed within lease area for SMS & Cement grade limestone	42645.990 MT dispatched as SMS grade limestone, No cement grade limestone despatched during the year	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Proposed as Manual	Manual sorting is done	
7c	Different grade of mineral sorted out at mines.	Steel Plat grade Limestone: CaO-42% (Min), CaO+MgO-48% Max, SiO2-4% Max. Cement Grade: CaO-42-45% Min, SiO2-1.2 to 4% Max, MgO- up to 4%	Steel Plat grade Limestone: CaO-42% (Min), CaO+MgO-48% Max, SiO2-4% Max. Cement Grade: CaO-42-45% Min, SiO2-1.2 to 4% Max, MgO- up to 4%	

7d	Any beneficiation process at mines .	No Proposals	Nil	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	NA	NA	Mineral is being conserved by grade wise sorting in the lease area. Steel Plat grade Limestone: CaO-42% (Min), CaO+MgO-48% Max, SiO2-4% Max. and Cement Grade: CaO-42-45% Min, SiO2-1.2 to 4% Max, MgO- up to 4% proposed to be sorted. Grade wise stacking is done on earmarked locations.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal and concurrent use for backfilling propose	Carried out as per the proposals	Top soil generated during the year 2021-22 as 10875 CuM
8b	Concurrent use or storage of topsoil	Separate removal and concurrent use for backfilling propose	Separate removal and concurrently used for backfilling propose	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Concurrent backfilling was proposed at southern part of mined out pit	Backfilling carried out partly and remaining OB generated dumped at the earmarked locations	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Concurrent backfilling was proposed at southern part of mined out pit	Backfilling carried out partly and remaining OB generated dumped at the earmarked locations	OB generated during the year partly backfilled and rest dumped at earmarked locations. Violation under Rule 11(1) of MCDR,2017 pointed out & issued for this deviations

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Concurrent backfilling was proposed at southern part of mined out pit	Backfilling carried out partly and remaining OB generated dumped at the earmarked locations	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	342 plants proposed on 3075 SqM	250 saplings planted during the year 2021-22	Survival rate is about 80%
8g	Survival rate	80 %	70%	Low survival rate due scarcity of water
8h	Water sprinkling on roads to control airborne dust	Water sprinkling is proposed by water tanker	Regular water sprinkling is done by water tanker	Water tanker of 5KL capacity is provided for the purpose
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	NA	NA	Aesthetic beauty in and around mine area is not much satisfactory as plantation not done up to that extent. Hence, it was instructed to propose at least 300-400 sapling/year.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	M.R. submitted upto-Sept-22 A.R. submitted upto- 2021-22	Annual Return for the year 2021-22 submitted within time limit	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Given	Shri Jawahar lal Saraf, Mining Engineer & Shri Vidya Sagar Sahu, Geologist appointed as per the provisions of Rule 55 of MCDR,2017	Mining Eng & Geologist were present in mine inspection

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Given	Pits-2.45Ha Reclaimed/Rehabilitated-0.619Ha Infrastructure-0.048Ha Road-0.10Ha	
9d	Scrutiny of Annual return on afforestation	Given	Saplings planted -250 Nos Survival rate-70%	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Not Given	No mineral rejects generated during the year	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Given	SMS Grade Limestone: O/S- 6354.300 MT Despatch- 42645.990 MT C/S- 35098.310 MT	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Given	Ex-mine price: SMS Grade Limestone: Rs 288.87 /MT	Sale value is significantly on lower side compared ASP published by IBM
9h	Scrutiny of Annual return on fixed assets	Given	Nil	Nil
9k	Scrutiny of Annual return on mining machineries	Given	Excavator,210 T, 1.2Cum capacity TATA Dumper model 2515, 10 T capacity Tractor mounted Air Compressor Jack Hammer/wagon drill with Drill rods Mahindra Tractor with Water Tank on trolley Water pump with Diesel engine	

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Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed			Show couse position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17 Rule 11(1)	11-NOV-22	30-DEC-22			
Rule 26(2)	11-NOV-22	30-DEC-22			
MCDR17 Rule 31(4)	11-NOV-22	30-DEC-22			

Date :

(**SANJAY M. GIRHE**)

Indian Bureau of Mines